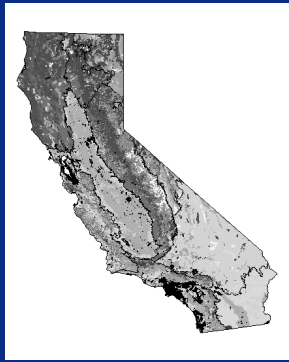

California Perchlorate Sampling Prioritization: Lessons Learned

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Agenda

1. Background on the Need for the Protocol
2. Details on the Protocol
3. Lessons Learned
4. Q&A's / Discussions

Background on the Need for the Protocol

Perchlorate observed at >6 ppb in 350 drinking water wells in CA

DoD perceived to be primary source of problem

Environment of uncertainty

- Lack of information on sources
- Questions and debate on science and toxicology of perchlorate
- No promulgated (or adopted) drinking water standard

Pressures (legislative, media, public) mounted to take action on the problem

Background on the Need for the Protocol

Information-request letters sent by Regional Water Boards to DoD facilities/FUDS (May 2003)

Cal-EPA Secretary sent letter to ADUSD (6 June 2003) seeking cooperation

Mr. John Paul Woodley – ADUSD (ESOH) – made several visits to senior regulators and concerned legislators (summer 2003)

Mr. Woodley responded to Cal-EPA with recommendation for an Interagency Working Group (July 2003)

DoD issued Perchlorate Sampling Policy (29 September 2003) which outlined two conditions for sampling

- Reason to suspect perchlorate release
- Complete pathway for human exposure

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Interagency Working Group

California Perchlorate Working Group (CA PWG) included representatives from:

- State Agencies
  - Cal-EPA
  - Department of Toxic Substances Control (DTSC)
  - State Water Resources Control Board
  - Regional Water Quality Controls Boards (Regional Water Boards)
- All Services and FUDS
  - DoD HQ involved initially but then turned it over to the regional environmental coordinators

Purpose of the Protocol

To scope out extent of the problem potentially attributable to DoD

To focus limited resources towards the most likely and significant threats

...By prioritizing sites for sampling

Protocol applied to active and closed bases, as well as FUDS

Prioritization Methodology

Protocol designed as a simple proximity analysis using mapped data

Prioritization criteria included:

- Distance from the site to a drinking water supply source (<1 mile, or >1 and <5 miles)
- Impact to drinking water supply (yes, no, unknown)
- Perchlorate release at the site (yes, no, unknown)

Protocol specified criteria for prioritizing sites

Prioritization Methodology

Priority		Drinking Water Supply Impact? ◆			Perchlorate Release Area?			Distance Between Perchlorate Release Area (or Installation or Site Boundary) and Drinking Water Supply Source ◆	
		Yes	Unknown	No*	Yes	Unknow	No **	Within 1 mile	1< miles < 5
HIGHEST	a		●		●			●	
	b		●		●				●
	c			●	●			●	
	d			●	●				●
	e		●			●		●	
	f		●			●			●
	g			●		●		●	
	h	●					●	●	
	i	●					●		●
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	l								
LOWEST	m								

Workshop - 1 July 2003

- Hosted by CA PWG to “ground truth” the Protocol as well as to ensure consistent implementation
- Attended by project managers from DoD facilities and regulatory agencies
- Co-chaired by State and DoD
- Provided historical perspective and rationale for the Protocol, as well as a tutorial on its use
- Presented maps showing the location of DoD sites within 5 miles of drinking water supply sources
- Began prioritization discussions via breakout sessions

Workshop provided feedback and ensured understanding and buy-in from people in the field

Workshop Follow-up

- Questions raised at the workshop were answered in a Questions and Answers document to provide guidance on implementation
- CA PWG established implementation target dates

Protocol Implementation

- Protocol staffed up four different Service chains, then on to OSD for approval
- Protocol disseminated for implementation via directive from ADUSD and Cal-EPA Secretary (23 September 2004)
- Press releases issued to inform stakeholders of Protocol implementation process (29 September 2004)

Protocol Implementation

Facilities/FUDS and Regional Water Boards worked together to assign a priority to each site

- Reviewed maps to determine the distance from site to a drinking water supply source
- Reviewed history of activity involving perchlorate use and determined whether there was reason to suspect a release

Priorities assigned by consensus based on methods described in the Protocol

Protocol Implementation

A number of sites were designated as Not Applicable (NA) to the Protocol. A site was determined to be NA if any of the following conditions were met:

- Operational ranges
- Ongoing perchlorate investigations or remediation
- Greater than five miles from a drinking water supply
- Known hydrologic conditions indicate it is not a source
- Consensus between the State and DoD that the facility is not a source or a potential source
- No impact to drinking water supply within five miles AND no indication that perchlorate has been released

Prioritization Results

- Multiple sites at 87 facilities and 227 FUDS were evaluated
- Sites at 24 facilities and 14 FUDS were assigned priorities
- Sites at 5 facilities and 12 FUDS were determined to be high-priority

Early indications are that DoD's contribution to problem not as significant as originally feared

Next Steps

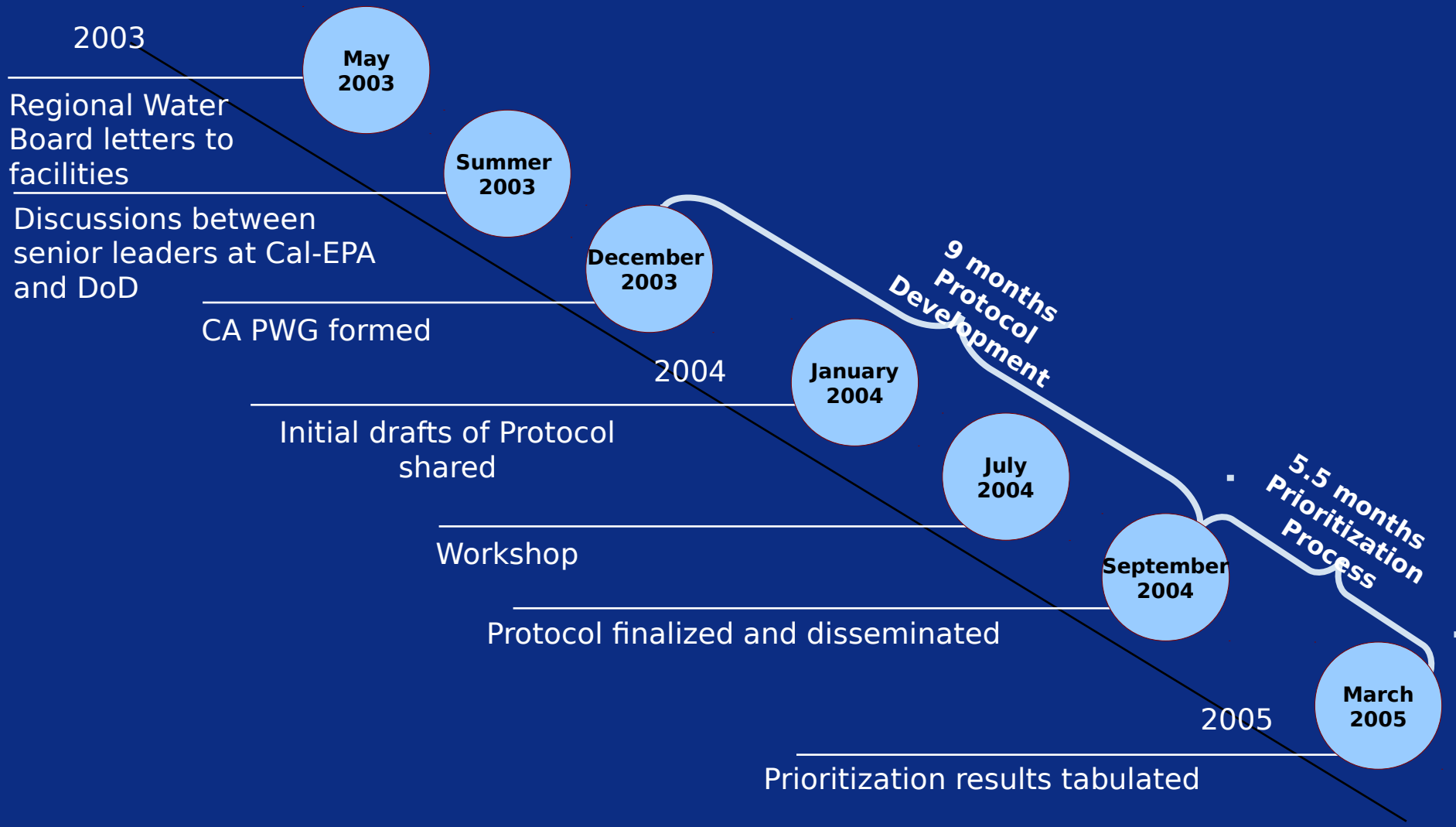
Facilities/FUDS will work with the Regional Water Boards to develop sampling plans and schedules for each prioritized site

State will work with water purveyors to sample untested public drinking water sources within five miles of DoD sites

Where perchlorate releases are confirmed, DoD will address through integration into existing response programs

Sampling and information gathering will be performed to fill data gaps

Timeline



ISEM

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Lessons Learned

Was this a unique issue with a unique set of circumstances driving this Protocol, or are there lessons we can apply to other issues and discussions between DoD and States?

Process was difficult and time consuming with no precedent

Positive outcomes of collaborative process

- Focused discussion on mutual/common goal and how to get there
- Process and discussion educated CA PWG members on mandates, restrictions and constraints faced by each other
- Facilitated trust and good working relationships

The Protocol provided a template and ground rules

to keep the screening process focused and

Lessons Learned

Membership Continuity and Commitment

- Limit participation to a core group with representation from each stakeholder Agency and Service
- Ensure consistency/continuity/commitment of membership
- Establish efficient lines of communication within DoD
  - Conduct routine phone cons, with consistent Chain-of-Command participation, to keep all involved focused

Lessons Learned

Timely completion of Protocol and Prioritization

- Define scope, roles and responsibilities, anticipated schedule, outcomes, and milestones – to extent practical
- Create realistic expectations for all - Set deadlines and commitments to guide process, but not to wield control over it
- Don’t try to anticipate every scenario – go with 80% solution - Don’t let the “possible” fall victim to “perfection”
- Run a beta test early on to ground truth conceptual framework
- Consider using a facilitator to keep conversations on track; keep good records of decisions

Lessons Learned

Good Information Management

- Employ best available tools – ACOE supplemented State's gap in GIS capability
- Use best available analytical information (limitations in analytical methods, detection limits, single vs. multiple hits)
- Designate a repository and gatekeeper for all information and sampling data
- Use knowledge gained to inform process - adaptive management

Q&A/Discussion

Questions?

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